Tramigo™ T23 Series
User Manual
V1.08
Firmware Build 1.08

Tramigo is a company of private capital with its headquarters in Finland and subsidiaries in Africa, Asia, Latin America and Europe. Tramigo manufactures the worlds best-selling tracking devices that are easy and economical to use in everyday life and business applications. Tramigo products are globally available.

For more information about Tramigo tracking products, please visit www.tramigo.com. For distributor, re-seller and partnership opportunities, email info@tramigo.com

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1 Product Overview

Tramigo™ is a new and easy way to be connected with your vehicle. **Tramigo™** adds security and provides peace of mind by showing you with your mobile phone the real-time location of your vehicles.

Tramigo™ provides the most advanced tracking, safety and security features available in the market. **Tramigo™** combines the features of both a car alarm and a tracking device into one easy to use product.

Tramigo™ is the first GSM/GPS tracking product that works world wide. The geographical data is built in so the user's privacy is guaranteed. Information flows directly between the owner's phone and the car instead of a 3rd party geographic data server. **Tramigo™** works with any pre or post paid SIM card and with any GSM phone.

Users can be notified of events such as trips, break-ins, towing, ignition on, speeding, and even know if the passengers need assistance. Tramigo™ can also be used with trucks, boats, buses, trailers, and motorcycles.

All **Tramigo™** T23 Series products have the following features:

- Vehicle Tracking and Management
- Accurate GPS Satellite Positioning
- Personal Assistance Button, in-built or optional external
- SMS Support on any GSM network
- In-built Geographical Data
- Customizable Locations
- M1 Move and Fleet software

Only **Tramigo™** offers:

Convenience – All of the features are available from a normal mobile phone the most common device our customers already own and carry with them. – A PC, web site or PDA is not required to use the system. However, these can also be used to track your Tramigo.

Low Operating Costs – The only truly stand-alone product; no monthly fees or multi-year contracts paid for service providers. Tramigo™ users pay only the SMS they use.

Advanced Features – Our safety and security, tracking, and performance features exceed all of our competitors' products combined.

Security - There is widespread concern about internet security and many firms don't want the location of their assets available on a public or 3rd party web server. They want control of the information at their location where they can ensure their data is secure. Due to the fact that the geographic data is built into the unit our product runs without a 3rd party server.

Important Note: This manual applies T23 and Revision B series T23 Fleet and T23 Track devices. Rev B devices have written "Rev B" on label under the battery.
In this document "T23" refers to previous T23 model and "T23 Series" refers to T23, T23 Fleet and T23 Track.

Regulatory Compliance Statements

FCC Warning Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

1.1 T23 Series Top Uses

- **Silent Car Alarm** – Turn on the Alarm and be notified when someone is in your car, truck or boat. Motorcycle owners can be notified if someone knocks over their bike.
- **Towing Alert** – Be notified that your vehicle is being towed and find the location of the vehicle.
- **Excess Speeding** – Set the speed limit and be notified when it's exceeded. Perfect for checking on new drivers.
- **Unauthorized use of vehicle** – Turn on Ignition reporting and be notified when someone is using your vehicle. Good when on holidays or when you take your car in for repairs.
- **Covert voice monitor** – Leave your T23 or T23 Fleet device anywhere you want to remotely listen in. Good for checking on babysitters, car repairs, hotel rooms. Listen in when your car alarm goes off to hear what's happening. Requires optional microphone.
- **Emergency calls** – T23 and T23 Fleet can receive calls and can make outgoing calls only to the numbers you specify. Now you can give someone a phone without worrying about large phone bills.
- **Luggage Minder** – Leave your T23 Series in your bag when it's out of your sight and be notified if someone opens it or picks it up. Good for laptop bags in airport lounges.

- **Door Alarm** – Put a T23 Series in a bag and hang in on your doorknob for an instant door alarm. You will receive a text when someone enters the room. Also good for cottages or any place you leave unattended since you can also plug the unit into a wall plug.
- **Arrival Notification** – Notify your family automatically when you are almost home. Good for boat owners as well.
- **Expense reporting** – Use Trip reports to automatically keep track of your mileage for expense reports.
- **Power monitor** – Plug a T23 Series into the wall power and be notified that the power has been turned off. Good for vacation homes and boats.

For more information about Tramigo™ products and accessories for your T23 Series products visit our website at www.tramigo.com. Questions? send email to support@tramigo.com.

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3 For Your Safety

Read these simple guidelines. Not following them may be dangerous or illegal. Read the full user manual for more information.

Switch on Safely - Do not switch on the unit when wireless phone use is prohibited or when it may cause interference or danger.

Switch off in Hospitals – Follow any restrictions. Switch the unit off near medical equipment.

Switch off in Aircraft – Follow any restrictions. Wireless devices can cause interference in aircraft.

Switch off when refuelling – Do not use the unit when at a refuelling point. Do not use near fuels or chemicals.

Switch off near blasting – Follow any restrictions. Do not use the unit when blasting is in progress.

Qualified Service – Only qualified personnel can install or repair this unit.

Water Resistance – Your unit is not water resistant. Keep it dry.

4 Getting Started

This section will describe how to setup your T23 Series after installation. For more information on the installation of T23 Series into a vehicle, please consult the "T23 Series Installation Guide". This manual will detail the use of T23 Series after the installation has taken place.

4.1 Hardware Features

T23 Series includes:

- T23, T23 Fleet or T23 Track Unit
- T23 Series-BAT
- T23 Series-GPS Antenna (optional)*
- T23 Series-USB (micro USB for portable charger)
- T23 Series I/O
- Quick Start Guide

*Not available with T23 Track.

4.2 T23 and T23 Fleet Light and Button Functionality

Figure 1 – T23 and T23 Fleet Unit Controls

Your T23 or T23 Fleet has 3 lights to indicate the status of the unit. Green means OK and red and blue means that you have a problem. T23 or T23 Fleet buttons require you to press for 2 seconds to prevent accidental triggering.

Power LED - Green:	
Flashing (5 seconds)	Power is on.
On	Charging.
Off	Power is off or T23/T23 Fleet is sleeping.
Power LED - Orange:	
Flashing (5 seconds)	Power is ON but is too low.
Power LED - Yellow:	
On	Charging and the power is still low.
GSM LED – Red:	
On	T23/T23 Fleet is not connected to the GSM network.
Off	T23/T23 Fleet is connected to the GSM network.
Flashing	T23/T23 Fleet is having problems sending a SMS.
GPS LED - Blue:	
On	T23/T23 Fleet does not have a GPS fix.
Off	T23/T23 Fleet has a GPS fix.
Power Button	Press for 3 seconds to activate.
Personal Assistance Button (SOS/ATB)	Press for 3 seconds to activate.

When using an external SOS/ATB button, the T23 or T23 Fleet is configured to arm the Alarm by pressing the button for less than 5 seconds. The external SOS/ATB can also be used to activate the phone functions.

Phone Button	Press once to answer incoming call. Press for 2 seconds or more to initiate an outgoing call to User 1, press a second time for User 2, etc. Second and third press does not have to be 2 seconds. Incoming call is indicated by the GSM and GPS lights flashing together.
Remote Assistance Button	Press for 5 seconds or more to activate Assistance message. Press for 0.2 to 1.9 seconds to use as phone button. Second press must be within 1 second to dial 2nd speed dial number

4.3 T23 Track Light and Button Functionality

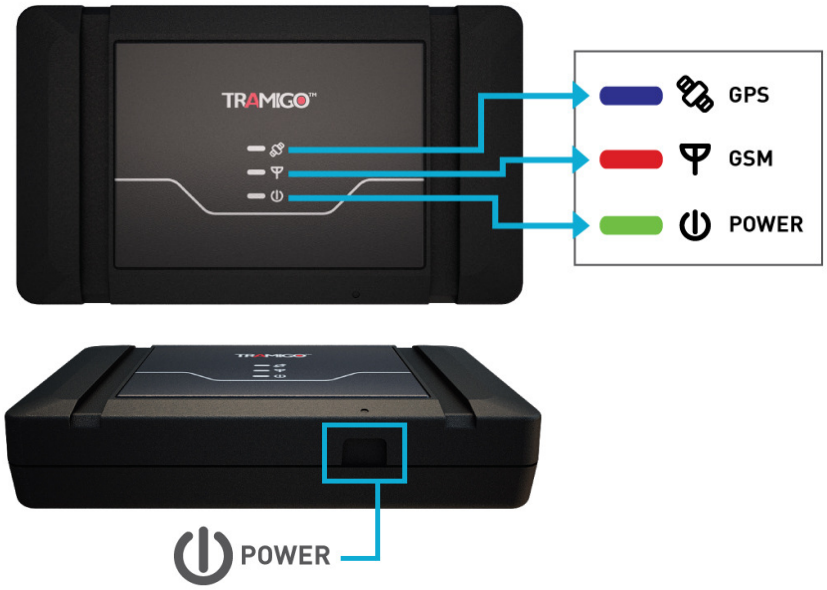

Figure 2 - T23 Track Unit Controls

Your T23 Track has 3 lights to indicate the status of the unit. Green means OK and red and blue means that you have a problem.

Power LED - Green:	
Flashing (5 seconds)	Power is on.
On	Charging.
Off	Power is off or T23 Track is sleeping.
Power LED - Orange:	
Flashing (5 seconds)	Power is ON but is too low.
Power LED - Yellow:	
On	Charging and the power is still low.
GSM LED – Red:	
On	T23 Track is not connected to the GSM network.
Off	T23 Track is connected to the GSM network.
Flashing	T23 Track is having problems sending a SMS.
GPS LED - Blue:	
On	T23 Track does not have a GPS fix.
Off	T23 Track has a GPS fix.
Power Button	Press for 3 seconds to activate.

When using an external SOS/ATB button, the T23 Track is configured to arm the Alarm by pressing the button for less than 5 seconds.

4.4 First Use

- Please read the Quick Start Guide before proceeding.
- Ensure that your T23 Series has a working SIM installed.
  - Check that the SIM has not run out of credit (test the SIM in a phone to make sure it can send and receive SMS)
  - Check that the SIM Lock code is turned off.
- **Charge your unit for 3 hours via USB. Use the T23 Series USB cable to connect the unit to PC or USB charger.**
- Check the T23 Series Power LED behaviour. Charging on low battery state will turn power light on solid yellow then will turn to solid green when enough charge was gained. When fully charged, the green light will change from solid green to **blinking green (every 5 seconds blink).** If the unit has been in storage it may take 15 minutes for the power light to turn on.
- Check that the GSM (red) LED is off.
- Check that the GPS (blue) LED is off, if not refer to next step.
- Take your T23 Series outside to where you have a clear view of the sky. After a minute or two, the blue GPS light will turn off indicating that your T23 Series now knows its location.
- After your T23 Series has been installed into the vehicle you are ready to become the 'Owner'. Owner authority has access to all the T23 Series commands and features.
- Send the following SMS to your T23 Series in upper or lower case:
  OWNER
  This is the same with Owner,0000 from previous registrations.
- T23 Series will respond with a text message stating:
  Tramigo: Owner, +635551234 registered, 09:25 April 14

This means that you are now the Owner of T23 Series and it will accept any commands that you issue to it, providing they come from the same mobile phone number as you used for this setup.

- If you plan to use your T23 Series as a portable device send the command:
  Set,sleep1repeats,6

- At this point you should change your T23 Series password to ensure a high level of security. You can do this by sending a command via text message to T23 Series – old password is 0000 by default:
  PASSWORD,<old_password>,<new_password>
  PASSWORD,0000,903WOOD

- The new password that you specify can be up to 20 digits long using letters and numbers. If your command is successful, T23 Series will reply with:
  Tramigo: Password, changed to 903WOOD, 09:25 Jan 14

- You may now wish to personalise your T23 Series by specifying a name. The name shows in the start of all SMS the unit sends to you. To do so, send a command via text message to T23 Series:
  NAME,Julie Car

- The new name that you specify can have a maximum of 15 characters. If your command is successful, T23 Series will reply with:
  Julie Car: Name, OK, 09:25 Jan 14

T23 Series is now ready for use. Try sending a FIND command via text message to receive a message describing the position of your vehicle. See how to add other users in the Authorization section. See the Features section to explore the capabilities of your T23 Series device.

4.5 Authorization

Your T23 Series has a PASSWORD to prevent unauthorized users from accessing the unit. You can also use this PASSWORD to add your new phone number to the User List if you lose your phone.

If you want to provide other users with access to your T23 Series you need to add their mobile phone numbers using the ADDUSER command.

Remember that OWNER authority gives access to all the commands, so most times you will only grant FRIEND or GUEST access to other users.

If a user is not authorised to issue a command they will receive no response from the T23 Series.

To add users:

- You can also use the short form of the ADDUSER command:
  AU,<phone number>,<security level>

- There are 3 authority levels:
  - OWNER – can send all commands and receive all reports – highest authority.
  - FRIEND – can get reports but doesn't get access to configuration commands such as ADDUSER, DELUSER, DISABLE, ENABLE, NAME, PASSWORD, LANGUAGE, SET commands.
  - GUEST – only allows FIND and HELP – lowest authority
- To add another user with FRIEND authority send:
  AU,+5551234567,FRIEND

- You will receive a response
  Tramigo: AddUser, +5551234567 has been added with authority FRIEND, 09:25 Jan 14

- You can display users with the LISTUSER (LU) command and delete users with the DELUSER (DU) command.

- If you lose your phone you send the Owner command with your password (if there is set – example:
  OWNER,ABCD

- Once your new number is added you can delete your old number from the User list.

5 Features

5.1 Location Directory

Built In Location Directory

T23 Series has an internal location directory, which can hold up to 200,000 place names. Users can add hundreds of their own places using the ADDPLACE command. These place names will be referenced in all reports that include the unit's location. You can also show geographic coordinates in your reports by using the COORD command.

5.2 Tracking Features

Each user with OWNER or FRIEND authority has the option of turning on different types of automatic reports that will notify them of events that occur to the T23 Series. See the commands section for a detailed explanation of all T23 Series commands.

Owners can turn on some of the reports for users using the REPORT command.

FIND

T23 Series will respond to a FIND command by stating its current position and status. The message will state the location directory referenced location and whether T23 Series is parked, stopped or moving along with its current speed and heading. You can also send F or a blank SMS to receive a FIND report.

Automatic FIND

You can also have your T23 Series send automatic FIND reports triggered by time, angle or distance travelled.

Nearest Locations

Using the NEAR parameter you can display the 3 nearest locations in case you don't recognize the closest one.

ALARM

The T23 Series has a built-in motion detector that you can activate using the ALARM command. When motion is detected you will receive an ALARM report. As a security backup your T23 Series will also notify you if your vehicle has moved 100m and the motion detector was not triggered.

TRIP

T23 Series can be configured to send a report at the start and end of every trip. This is done using the TRIP command. A trip is started when the unit has moved more than 300m and faster than 3 km/h. The trip ends after the unit has not moved for 15 minutes (configurable).

The TRIP end will include the following information:

- Start position
- End position
- Time of trip and idle time
- Distance travelled
- Average and maximum speed

Interim trip reports are available using the NOW parameter. If no trip is in progress you can see the last trip travelled.

Speed

T23 Series can report when it's exceeded a speed limit you have set. Use the SPEED command to turn on this report.

Zone

T23 Series can report when it's within a specific distance from a location. The ZONE command can be used to notify you when your T23 Series leaves an area, or is approaching a place.

Ignition Report

For full installations T23 Series can be configured to send an Ignition report every time the ignition is switched on or off. You can turn this report on and off by using the IGNITION command.

Navigation Support

T23 Series outputs standard NMEA strings to the serial port, to be used with 3rd party navigation systems on PC's and other devices that run Windows. The availability of navigation varies in each country. NMEA will be outputted at a Baud rate of 115200.

5.3 Phone Features

Installation Location

Your T23 Series unit can be mounted anywhere inside your vehicle or boat where the unit will not get wet and not exposed to excessive heat. The most common locations are behind the dashboard, under the centre console, and under a side panel in the back of the vehicle. Pick a location where you can secure the unit firmly using screws or cable tie.

All T23 and T23 Fleet phone features require the hands free kit headset (accessory). Voice quality is dependent on the condition of the GSM network that the user is connected to. For best results call the unit with a land line.

Listen

Users with OWNER authority can find out what's occurring in their vehicle with the LISTEN command. This command will have the T23 or T23 Fleet call your phone then you can hear the activity in your vehicle. This option requires a special high gain microphone accessory (T23 Series-

MIC) to be able to hear voices within 5 meters. The standard hands free kit can detect noises, but is designed to filter out background noise to improve voice calls.

Voice Calls

The Phone button on your T23 or T23 Fleet can be used to call pre-programmed numbers. Simple press the button to call up to 3 SPEEDIAL numbers you have set up. To call the first SPEEDIAL number press the phone button once, to call the second number press the button twice, etc.

You can also receive calls by pressing the Phone button. Incoming calls are indicated with a ring tone on the speaker and flashing of the GSM and GPS lights.

T23 or T23 Fleet will accept incoming calls from any phone number.

Besides the speaker volume dial located on the hands free two settings can be used to modify the volume levels; LoudSpeakerVolume and MicrophoneGain described in the T23 Series Parameters section.

The hands free headset accessory can be ordered from Tramigo, but any standard 2.5mm headset should work.

5.4 Miscellaneous Features

Name Unit

You can personalise the name of T23 Series so that it will appear in the summary reports. This is done by using the NAME command.

Status

With the STATUS command you can see the status of the GSM network, GPS satellites, and battery power left. It also displays which reports you have turned on.

Automatic STATUS[new]

You can also have your T23 Series send automatic STATUS reports triggered by time, distance and angle.

SystemStatus[new]

You can now check the full system statistics thru SYSTEMSTATUS command. It shows the number of reboots made, Ave. Signal strength, GPRS data connection statistics, MCU Temperature and Odometer details.

Settings

With the SETTINGS command you can see which reports you have turned on for all users, and system wide settings.

Power

You can be notified when the battery power drops below 20% with the POWER command.

Personal Assistance Button

Pressing the T23 or T23 Fleet Personal Assistance Button for 3 seconds or more will send a SMS report to all Users with Owner authority indicating your location. To also include users with Friend authority use the **SET,SosReportToFriend,1** command.

Language

T23 Series base language is English. Maximum number of languages loaded into T23 Series is 3. To see available languages use the LANGUAGE,ALL command. All commands and reports can be translated to the other language. To turn on the alternate language see the LANGUAGE command. To change TLD language you can use command TLDLANGUAGE,X, where X is the TLD language number.

5.5 SMS Handling

T23 Series will receive SMS when connected to the GSM network and when awake or in the first sleep mode. SMS sent to the unit when not connected are stored by the GSM operator for a time specified in your phone settings (1 hour to unlimited) and will send the SMS when the T23 Series connects to the network. Note that some operators will delete the SMS sooner depending on system volume.

T23 Series will buffer outgoing SMSes when not connected to the network and will send them at the first opportunity. When the unit has problems sending a SMS the GSM light will flash and will attempt to send the SMS several times. If this occurs frequently see the troubleshooting section.

5.6 Power Management

T23 Series conserves power by automatically going into sleep mode when the unit is idle. When in sleep mode all the unit lights are turned off. There are 4 sleep modes that progressively lower the power consumption. These modes are configurable using SET parameters.

The default parameters for portable use are show below.

1st mode shuts off GPS after 1 hour after a Trip ended or 15 minutes of inactivity
- Wakes up on incoming SMS, Ignition, Trip Start, Charging.
- Every hour, 10 minutes awake for 18 cycles (18 hours).

2nd mode shuts off GSM modem
- Wakes up on Trip Start, Charging.
- Every hour, 10 minutes awake for 120 cycles (5 days).

3rd mode is same as 2nd
- Every day (1435 minutes) sleep, 10 minutes awake until 4th mode.

4th mode shuts down when battery power is below 3.6v
- Wakes up only when connected to power or charging.

Notes:
- Motion detection wakes unit for 10 minutes then resumes current sleep mode.
- Unit will not sleep when in a Trip or charging.
- Unit will sleep if there are outgoing SMS that can't be sent due to network issues.
- Automatic reports do not impact sleep mode.
- If Power reporting is turned on a Low Power report is sent when the battery is below 3.6V (20%).

To turn off sleep mode send the command: **SET,Sleep,0**

Note that this will drain your battery very quickly and is not recommended for normal use

To turn sleep mode back on send the command: **SET,Sleep,1**

Battery Charging and Handling

Your T23 Series has a 1300mAh Li-Polymer rechargeable battery that provides power when your unit is not connected to the vehicle power. Charging time takes 3 hours and the unit will charge even when turned off. You should always fully charge your unit before your first use because the battery will be drained from storage. When in storage the battery may drain too low to power the unit lights, but after charging for 15-30 min the power light will come on.

To charge the unit, connect the USB cable to the T23 Series and plug into computer, compatible wall charger or an optional Cigar Lighter Adaptor for use inside your vehicle. Only use approved Tramigo products for charging the battery.

You can also use a USB port on a Windows XP computer to charge the unit if you install the USB Drivers first using the Tramigo Manager OEM.exe.

Battery performance is impacted by temperature so when possible, keep the unit at normal room temperature. At temperatures below 0˚C or above 55˚C the battery will not recharge.

You can also use T23 Series without the internal battery. Power is supplied via I/O cable.

Do not dispose of batteries in a fire as they may explode. Dispose of batteries according to local regulations. Do not dispose as household waste.

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

6 Commands

T23 Series will only accept commands from a user with the correct authority. Unauthorized commands are ignored.

Commands are not case sensitive unless they are Unicode characters. Common commands have a short form to save typing. Example for FIND you can send find, F, f, or a blank SMS.

Each user must turn on the reports they require. To see what reports you have turned on use the STATUS command. To see which reports have been turned on by all users use the SETTINGS command. To see your T23 Series system statistics, such as number of reboots, temperature and distance travelled, use **SYSTEMSTATUS (SS)**[new] command.

6.1 Command Summary

Italicized parameters are optional.
Security levels: 1 – Owner, 2 – Friend, 3 – Guest. Owner can also send all Friend and Guest commands, Friend can send all Guest commands.
Avail: A – All versions, B – T23 and T23 Fleet only, F – Install version only, O – Optional accessory needed

User Commands

Command	Parameters	Alias	Security	Avail
AddPlace	placename,*latitude,longitude,radius*	AP	2	A
AddUser	phoneNum,security,*password*	AU	1	A
Alarm	*On/off/auto*	A	2	A /F/O
DelPlace	placeName	DP	2	A
DelUser	userNumber	DU	1	A
Disable	*On/off,password*		1	F/O
Find[new]	*Off/near/time/xtime/daily/weekly,ydistance, non-triptime,angle* [a]	F	3	A
Get	parameter id		1	A
GPRS[new]	parameter id		1	A
Help	command	H	3	A
IdleAlarm[new]	*On/off/time,radius*	IA	1	A
Ignition	*on/off*	I	2	F/O
Listen	phoneNumber	L	1	B/O
ListPlaces	none	LP		
ListUser	*userNumber/all*	LU	1	A
LowBalance	*Number/off*	LB	1	A
Metric	*on/off*		2	A
Name	unitName	N	1	A
Owner	*password*		1[1]	A
Password	oldPassword,newPassword		1	A
Personal Assistance			none	B
Power	*on/off*	P	2	A
Report	userNumber,reportName,on/off/*time*	R	1	A
Settings			2	A
SMS	phoneNum,*message*		1	A

[1] For first time use when no Owner is defined then unit will accept command from any phone number. **Owner** can also be issued from any phone.
[a] Interval when the unit is not on trip mode. Recognized through this format: f,x,y,z,a

SMSLimit	numOfSMS*/off*			
Speed	*speedLimit/on/off*	S	2	A
SpeedDial	*slot,phoneNum*	SD	1	B/O
SpeedTrigger	speedLimit,output1/output2/output3		1	A/O
Status[new]	*off/time/daily/weekly,distance,angle*	ST	2	A
SystemStatus[new]	*time/all/reset*	SS	1	A
Temperature	*On/off/value*	TEMP		
Time	gmtOffset*/auto*		2	A
Trip	*on/off/now*	T	2	A
Version		V	2	A
Zone	*distance/on/off/userlocations,placeName/in/out/both/off*	Z	2	A

Support Commands
These commands are used primarily by installation and support personnel.

Command	Parameters	Alias	Security	Avail
Boot[new]	*off/interval*		1	A
Coord	*on/off/DEC/DMS*		2	A
Debug	*on/off*		none	A
Input	portId,*type,commandName,1/0,delay,on/off/both*		1	F/O
Install[new]			1	A
Language	*on/off/languageNumber/languageName/all*		1	A
Output	portId,*type,commandName,1/0,timeOn*		1	F/O
ResetSettings			1	A
Set	parameter id,value		1	A
TLDLanguage	language number		1	A
UnInstall[new]			1	A

Notes

1. Commands are not case sensitive, but parameters such as placeName can be.
2. Extra blanks should be ignored that occur before and after the command, and in placeName.
3. Up to 8 commands can be sent in one message using > symbol. Example TRIP>ALARM,OFF>STATUS can be sent in one SMS. The system response may exceed 1 SMS.
4. Incoming commands can be up to 150 characters in length.

6.2 Command Detail

Each Tramigo command is defined with the following:

Command: command name. Tramigo is not case sensitive
Alias: alternate commands that can be used
Parameters: command options. If *italicized* then optional
Description: brief description of the command
Related Cmds: commands that are related
Security: security level
Message Format: format of the response to the user
Notes: special behaviour of the command
Errors: error patterns
Examples: samples of command usage and responses

6.2.1 Accelerometer

Important Note: Version 1.10 and above

Command: Accelometer,*on/off*
Alias: ACC
Parameters: *on* – optional. Activates the accelerometer
off – optional. Deactivates the accelerometer

Description: Observes the acceleration and deceleration, 1 second interval.
Related Cmds: none
Security: none
Message Format: Command Response
Notes:

1. Reports are generated based on pre-set limits.
2. Acceleration typical value range is 1.0-2.0 m/s² and for braking it is 0.5-1.5 m/s².
3. How to change the limits:
    a. 'set,hardaccelerationlimit,19' - acceleration limit to 1.9 m/s²
    b. 'set,hardbreakinglimit,10' - braking limit to 1.0 m/s²

Errors: none
Examples:

ACCELEROMETER,ON
Tramigo: Accelerometer, reporting is turned on, 12:01 Jan 13

ACCELEROMETER,OFF
Tramigo: Accelerometer, reporting is turned off, 13:01 Jan 13

6.2.2 AddPlace

Command: AddPlace,placeName,*latitude,longitude,radius*
Alias: AP
Parameters: placeName – required. 40 characters maximum, no commas
Latitiude – optional.
Longitude – optional.
Radius – optional

Description: Adds a place to the user location directory.
Related Cmds: DelPlace
Security: Friend
Message Format: Command Response
Notes:

1. The current coordinates of the unit are used, so it's best if the unit is parked.
2. Place names must be unique. Adding a place with an existing name overwrites the existing coordinates. Only the first part of the location name is used.
3. Place names are not case sensitive for lookup purposes but will display in the case entered by the user.
4. Special place name all is reserved.
5. Commas and other invalid characters are substituted with blanks. Extra blanks are removed.
6. Once a place is added it will appear in location messages when it's the closest point to the vehicle.
7. The user locations are separate from the system locations that were pre-loaded to the unit. This allows reset of only the User added locations.
8. Latitude and longitude are in decimal degree format up to 5 decimal places. Radius is in decimal format up to 2 decimal places. Exceeding characters will be rounded up.
9. You can add up hundreds of your own locations to the T23 Series. If you need to add more and then contact Tramigo Support.

Errors:

1. Parameter Error
2. List Full Error

Examples:

ADDPLACE,Home
Tramigo: AddPlace, place Home added to the user locations, 09:25 Jan 14

ADDPLACE,Office,14.55952,120.99168,1.00
Tramigo: AddPlace, place office 14.55952 120.99168 1.00 added to the user locations, 09:25 Jan 14

6.2.3 AddUser

Command: AddUser,phoneNum,*security,password*
Alias: AU
Parameters: phoneNum – required. Phone number in international format. Example +63…
Security – optional. owner, friend, or guest. If omitted then guest is assumed.
Password – optional.

Description: Adds a user to the system.
Related Cmds: DelUser, ListUser, Settings
Security: Owner
Message Format: Command Response
Notes:

1. Up to 10 users can be added to the system.
2. Adding user number without authority level will automatically be added as GUEST.
3. When added each user is assigned a user number from 1 to 10. This number is referenced in the SETTINGS report, and in the LISTUSER report.
4. Be careful adding other users with OWNER authority – they have access to all commands and can even delete you from the list.
5. Full international format numbers should be used example +852…
6. Adding the same phoneNumber will only replace the existing one and keep the current report settings. This can be done to change the user's authority.
7. To reset a user's reporting just delete and re-add the user.

Errors:

1. Parameter Error
2. List Full Error

Examples:

To add a user with FRIEND authority:

AddUser,+63025551234,friend
Tramigo: AddUser, +63025551234 has been added with authority Friend, 09:25 Jan 14

To add an existing user with different authority:

AddUser,+63025551234,owner
Tramigo: AddUser, +63025551234 authority changed to Owner, 23:28 May 28

6.2.4 Alarm

Command: Alarm,*on/off/auto*
Alias: A
Parameters: *on/off/auto* – optional - Sets alarm reporting on, off or automatic.

Description: Turns on and off alarm reporting for the user.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Alarm will ignore motion inputs when the ignition is turned on, and when a trip is in progress.
2. When an alarm event is detected a Location message is sent to all users that have ALARM turned on.
3. Alarm uses the shock sensor to sense motion.
4. Alarm also enables the security shield (a special system ZONE with a distance of 0.1 km). This is a backup in case the shock sensor is not triggered.
5. Alarm reporting is shut off after 1 report. User must turn on Alarm reporting to reactivate. Setting the auto parameters below can be used to automatically re-arm the alarm.
6. When using the set command to change parameters, if one user turns off the auto then all users have auto turned off.

Errors:

1. Parameter Error

Examples:

ALARM
Tramigo: Alarm, reporting is turned on, 09:25 Jan 14

STATUS
Tramigo: Status, GPS: 72%, GSM: 87%, battery: 100%, reports: Alarm, 23:07 May 28

ALARM,OFF
Tramigo: Alarm, reporting is turned off, 09:25 Jan 14

ALARM,AUTO
Tramigo: Alarm, reporting is automatic, 09:25 Jan 14

When the security shield is detected:
Tramigo: Shield alarm detected, moving, 0.33 km NE of Big Splash, Marine Parade, SG, SW with speed 24 km/h, 09:25 Jan 14

When the shock sensor is detected:
Tramigo: Motion alarm detected, parked, 0.23 km NE of West Coast Ferry Terminal, Clementi, SG, 09:25 Jan 14

6.2.5 Boot

Command: Boot,*off/time*
Alias: none
Parameters: *off* – optional – Deactivates cyclic unit reboot
Time – optional – Activates cyclic unit reboot in hours

Description: Restarts the Tramigo application code in the unit.
Related Cmds: none
Security: none
Message Format: Command Response
Notes:

1. The GSM modem and GPS receiver are reset. Useful if there are GSM connection problems.
2. Used primarily by support but can be used when the unit is not responding.
3. When activated without specific hours interval, automatically sets 24 hour cyclic reboot.

Errors: none
Examples:

Immediately reboots unit then reset counter for a 24-hour reboot setting.

BOOT
Tramigo: Boot, OK, 09:25 Jan 14

Boot,1
Tramigo: Periodic reboot activated, interval 1 hour(s), 15:09 Jun 11

Boot,Off
Tramigo: Periodic reboot deactivated, 17:15 Jun 11

6.2.6 Coord

Command: Coord,*on/off*/DEC/DMS
Alias: none
Parameters: *on/off* – optional
DMS – for degrees, minutes, seconds
DEC – for decimal degrees (default)

Description: Sets on and off coordinate display in Location messages or changes the formatting. Default is off.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Coordinates are displayed in signed decimal degrees (-14.23354) or degrees minutes seconds format (14 33'12"S).
2. Either format can be cut and pasted into Google Earth.
3. Decimal degrees have 5 digits of precision.
4. Format setting is retained until changed.
5. COORD on is needed to view locations using M1 Fleet and Google Earth

Errors: none
Examples:

Coord,ON
Tramigo: Coord, reporting turned on, 09:25 Jan 14

Coord,DMS
Tramigo: Coord, DMS reporting turned on, 09:25 Jan 14

6.2.7 Debug

Command: Debug,on/off
Alias: none
Parameters: on/off

Description: Sets on and off debug output to the USB port
Related Cmds: none
Security: none
Message Format: Command Response
Notes:

1. Debug output defined under diagnostics section.
2. Used by support personnel.

Errors: none
Examples:

Debug,ON
Tramigo: Debug, reporting turned on, 09:25 Jan 14

6.2.8 DelPlace

Command: DelPlace,placeName
Alias: DP
Parameters: placeName – required. Must be a valid place name. Parameter all can be used to delete all the entries in the user location directory.

Description: Deletes a place from the user location directory.
Related Cmds: AddPlace
Security: Friend
Message Format: Command Response
Errors:

1. Parameter Error
2. Lookup Error

Notes:

1. To delete all the user locations the special placeName all can be used.
2. DelPlace will delete from either the system or user location directory.
3. If there are multiple records with the same placeName, then delete the closest place to the current position.

Examples:

DELPLACE,Office
Tramigo: DelPlace, office deleted 23:50 May 28

DELPLACE,all
Tramigo: DelPlace, all user locations deleted, 09:25 Jan 14

6.2.9 DelUser

Command: DelUser,userNumber/phoneNumber
Alias: DU
Parameters: userNumber - Each user is assigned a number from 1 to 10 when added.
all removes all non-owners.
phoneNumber - Remove user based on phone number.

Description: Deletes a user from the system.
Related Cmds: AddUser,ListUser
Security: Owner
Message Format: Command Response
Notes:

1. You find the user number with the ListUser command.
2. ALL is used to remove all of the non-owners from the user list.

Errors:

1. Parameter Error
2. Lookup Error

Examples:

DELUSER,2
Tramigo: DelUser, deleted user, 2 +635552345900, 23:21 May 28

To remove all non-owners:

DELUSER,all
Tramigo: DelUser, all non-owners deleted, 09:25 Jan 14

6.2.10 Disable

Command: Disable,on/off,*password*
Alias: (none)
Parameters: on/off
password – optional and only needed when disabling the vehicle

Description: Toggles the vehicle immobilization (disables/enables the ignition from starting).
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. When disabling, if the ignition is currently on then the command will not take effect for 45 seconds after the ignition is turned off and the user should be notified after the delay. If the ignition is off the command is executed immediately.
2. Ignition detection must be connected.
3. The output line to the immobilizer relay is only powered when starting the car and DISABLE has not been set.
4. To reset this the owner would send the DISABLE,off command to allow the vehicle to be started.

Errors:

1. Parameter Error

Examples:

When enabled and the ignition is off

DISABLE,on,*123456*
Tramigo: Disable, Vehicle ignition disabled, 09:25 Jan 14

When enabled and ignition is on

DISABLE,on,123456
Tramigo: Disable, Vehicle ignition will be disabled 45 seconds after the ignition is turned off, 09:25 Jan 14

Later when the command is executed
Tramigo: Disable, vehicle ignition disabled, 09:45 Jan 14

DISABLE,off
Tramigo: Disable, vehicle ignition enabled, 09:45 Jan 14

6.2.11 Find[NEW]

Command: Find, off/near/time/xtime/daily/weekly,ydistance,non-triptime,angle
Alias: F, where, location, blank
Parameters: *near* – optional. Also returns the next 3 nearest places (First part of the location name only)
time – optional. Creates automatic FIND reports.
xTime – optional. Creates automatic FIND reports when on trip and is followed by automatic FIND by xDistance.
off – optional. Turns off automatic time FIND reports.
distance – optional. Creates automatic FIND reports.
non-triptime – optional. Sends automatic FIND reports when not in trip mode
angle - Sends automatic FIND reports if vehicle angle change more than the angle set. Minimum is 20. Maximum is 180.

Description: Returns the state and location of the vehicle.
Related Cmds: COORD, METRIC
Security: Guest
Message Format: Location
Notes:

1. A blank SMS will also issue the find command.
2. Once the first GPS fix is received by the unit the FIND will always return a valid position. Until then the string no GPS lock is returned and the time is set to 00:00 Jan 1.
3. If the location unknown position is displayed then there is a problem with the location directory. Contact support.
4. Old GPS position is displayed when the last GPS fix is over 3 minutes old.
5. Date and time on location messages is the time of the last valid GPS position.
6. Location will not change when IGNITION is off unless a TRIP is started or the vehicle has moved more than 300m.
7. To determine presence:
    a. Parked – vehicle is not in a Trip and not moving
    b. Moving – vehicle is in a Trip
    c. Stopped – vehicle is in a Trip and not moving
8. Automatic timed reports can be from 1 to 10080 minutes or daily or weekly. When in sleep mode the report will be sent when the unit wakes up next.
9. Automatic distance reports can be from 0.5 km to 20,000km. Due to GPS availability the actual distance can vary from report to report – this is normal.
10. When in sleep mode all automatic reports will be sent only when the unit wakes up next.
11. Automatic reports are only sent to user who requested the report. Each user can set their own interval. Automatic reports should only be used by a few users otherwise the SMS may start to queue (GSM light flashing).
12. Advanced command F,near,4 will return nearest 4 places. Max is 5. Default is 3.
13. Automatic FIND for trip mode and non-trip can be set with FIND,xTime,yDistance,non-triptime, angle
    a. xtime is the interval for T23 Fleet automatic find when on trip mode.
    b. non-triptime automatically takes place to send automatic FIND when T23 Fleet was not on trip mode. This can only be recognized when trip mode and distance value are present upon sending the command.
14. Enable report time stamp with seconds with command:
    a. Set,ShowTime,2

Errors:

1. Parameter Error

Examples:

Car is moving:

FIND
Tramigo: moving, 0.23 km NE of Glorietta Mall, Makati, SW with speed 24 km/h, 09:25 Jan 14

Tramigo: Parked, at Valero Street-Rufino Street, Makati, 14.55917, 121.01922, 01:02 May 29

Unit has never had a GPS fix:
Tramigo: parked, no GPS lock, 00:00 Jan 01
The time is corrected when the first fix is received.

Unit has lost GPS signal:
Tramigo: parked, at Park Mall, Downtown, SG, 01 17'52"N, 103 50'44"E, old position, 09:35 Oct 7

FIND,near
Tramigo: Nearest locations: at Valero Street-Rufino Street, 0.11 km N of Ayala Avenue-Rufino Street, 0.22 km SE of McDonald's H.V. dela Costa, 01:02 May 29

FIND,Near,5
Tramigo: Nearest locations: 0.07 km W of Valero Street-Rufino Street, 0.12 km N of Ayala Avenue-Rufino Street, 0.18 km SE of McDonald's H.V. dela Costa, 0.25 km N of Rufino Street-Dela Rosa Street, 0.28 km W of Makati Sports Club, 01:15 May 29

Automatic reports:

FIND,1
Tramigo: Periodic find activated, report interval 1 minutes, 00:58 May 29

FIND,1,2
Tramigo: periodic find activated, report interval 1 minutes, 2 km, 00:58 May 29

FIND,1,2,1
Tramigo: periodic find activated, report interval 1 minutes, 2 km, 1 minutes, 00:58 May 29

FIND,,5
Tramigo: periodic find activated, report interval 5.00 km, 00:58 May 29

FIND,1,0.5,120,30
Tramigo: periodic find activated, report interval 1 minutes, 0.5 km, 120 minutes, 30 degree(s), 03:23 Oct 23

To turn off automatic reports
FIND,off
Tramigo: periodic find deactivated, 17:06 Oct 9

6.2.12 Get

Command: Get,key
Alias: none
Parameters: key - parameter id

Description: Reports the setting of a parameter.
Related Cmds: Set
Security: Owner
Message Format: Command Response
Notes:

1. Used by support personnel and advanced users.

Errors:

1. Lookup Error

Examples:

GET,GPSTimer
Tramigo: Get, parameter gpstimer, value 0, 01:28 May 29

6.2.13 Help

Command: Help,*command*
Alias: H, ?
Parameters: *command*

Description: Provides information on how to use a command.
Related Cmds: none
Security: Guest
Message Format: Command Response
Notes:

1. No parameter will return a list of the most common commands.
2. Short forms for the commands will be used to save space.

Errors:

1. Parameter Error

Examples:

HELP
Tramigo: Help, F - Find, S - Speed, T - Trip, ST - Status, AU - Add User, LU - List User, DU - Delete User, AP - Add Place, DP - Delete Place, A - Alarm, Z - Zone, P - Power, R - Report, SD - Speed Dial, email: support@tramigo.com, 01:37 May 29

HELP,Z
Tramigo: Help, Zone: Z,distance/off,placeName, 09:25 Jan 14

6.2.14 IdleAlarm[new]

Command: IdleAlarm,ON/OFF/*time,radius*
Alias: Ia
Parameters: on/off – Turns VehicleIdle reporting on or off.
time – optional. Creates idle time counter and sends report when counter reached the limit.
radius – optional. Sets radius and reset vehicleidle counter when the vehicle reaches beyond it.

Description: Sends idle report for a given interval within a given radius after Ignition was started.
Related Cmds: STATUS, SETTINGS
Security: Owner
Message Format: Command Response
Notes:

1. IdleAlarm is activated when Ignition On is detected.
2. When IdleAlarm is activated/enabled, it is referred in STATUS and SETTINGS report.
3. Default counter value is 10 mins when IdleAlarm is turned on.
4. Default distance radius is within 50 meters when IdleAlarm is turned on.
5. Every counter resets when the vehicle moved beyond the distance radius.
6. Radius is 1-9999 meters.

Errors: none
Examples:

IdleAlarm,15,30
Tramigo: IdleAlarm, reporting is turned on, 15:50 May 29

STATUS
Tramigo: Status, GPS: 78%, GSM: 83%, Temp: 40.35, battery: 89% (charging), reports: Ignition (off), Trip, IdleAlarm (15,30), 15:52 May 29

SETTINGS
Tramigo: Settings, Alarm: - , Find: - , Status: - , IdleAlarm: 1, Ignition: 1, Power: - , Trip: 1/2, Speed: - , Zone: - , Sensor (Sensor): - , Input (Input4): - , User locations: 0, Metric: on, Coord: off, Language: off, LowBalance: off, Time: automatic (GMT 8.00), 15:54 May 29

When vehicle idle is detected:
Tramigo: Vehicle in idle state, parked, at Valero Street-Rufino Street, Makati, 15:47 May 29

IdleAlarm,off
Tramigo: IdleAlarm, reporting is turned off, 15:51 May 29

6.2.15 Ignition

Command: Ignition,on/off
Alias: I
Parameters: on/off - Sets ignition reporting on or off

Description: Turns ignition reporting on or off for the user.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. The unit must be connected to the ignition circuit to detect when the ignition is turned on or off. This report is not recommended for portable use as you will receive false ignition reports.
2. When using a connection to the ignition circuit set the following parameters:
    a. SET,IgnitionInputShock,0
    b. SET,IgitionInputGPIO,1
3. You can customize the reporting to include ignition on/off or both. Default is both.
    a. SET,IgnitionOn,1 turns on reporting for ignition on.
    b. SET,IgnitionOff,1 turns on reporting for ignition off.

Errors:

1. Parameter Error

Examples:

IGNITION,ON
Tramigo: Ignition, reporting turned on, 09:25 Jan 14

IGNITION,OFF
Tramigo: Ignition, reporting turned off, 09:25 Jan 14

When ignition is turned on:
Tramigo: Ignition on detected, parked, 0.15 km NE of Kemaman Hospital, ,Chukai,Terengganu,MY, 09:25 Jan 14

When ignition is turned off:
Tramigo: Ignition off detected, parked, 0.30 km S of Kelab Darul Ehsan,Setapak,KL,MY, 09:25 Jan 14

6.2.16 Install

Command: Install
Alias: none
Parameters: none

Description: Configure T23 Series with single command.
Related Cmds: Uninstall
Security: Owner
Message Format: Command Response
Notes:

1. Connect accessories.
2. Place the T23 Series unit on final installation position.
3. Send command and follow instructions. Installation takes about 1 minute.
4. Undo the installation with command Uninstall

Errors:

1. T23 Series moved during the installation

Examples:

INSTALL
Tramigo: Installation started, start the car to configure ignition sensing, press SOS button for 3 seconds if installed, vehicle will disable after 30 seconds if immobilizer is installed, 13:21 Jan 15

Tramigo: Installation done, Position: x=-0.10760 y=-0.00675 z=-0.99112, GPS: 45%, GSM: 90%, Battery: 91%, External GPS antenna recommended, 13:21 Jan 15

INSTALL
Tramigo: Installation started, start the car to configure ignition sensing, press SOS button for 3 seconds if installed, vehicle will disable after 30 seconds if immobilizer is installed, 12:21 Jan 15

Tramigo: Alarm detected, panic button activated, parked, 12:21 Jan 15

Tramigo: Installation failed, device kept on moving during installation, 12:21 Jan 15

UNINSTALL
Tramigo: Uninstall done, settings removed, 14:43 Feb 23

6.2.17 Input

Command: input,portId,type,commandName,1/0,delay,on/off/both
Alias: none
Parameters: portId – Input port ID number
Type – The type of the input port
commandName – The report name for input event
1/0 – High or low detection
Delay – Delay after input is recognized
on/off/both – Input reports to receive

Description: Configure T23 Series input ports to receive signal from accessories
Related Cmds: Report
Security: Owner
Message Format: Command Response
Notes:

1. Port Ids are from 1-4.
2. All T23 input ports are voltage sensing.
3. T23 Fleet and T23 Track input ports 1 and 3 are voltage sensing, input ports 2 and 4 are ground sensing. Use them accordingly.
4. Types can be Ignition, SOS, General, Sensor and HandsFree.

Errors:

1. Parameter error

Examples:

INPUT,1,IGNITION,IGNITION,1,500,BOTH
Tramigo: Input: 1, type: Ignition, literal: Ignition, high: 1, delay: 500, report when: both, 06:27 Dec 12

Set reporting for PC:

IGNITION,ON
Tramigo: Ignition, reporting is turned on, 06:30 Dec 12

Report when input is detected:
Tramigo: Ignition on detected, 07:13:44 Dec 12

Setting custom accessory input report for user #2:

INPUT,3,SENSOR,LIGHT,0,1000,ON
Tramigo: Input: 3, type: Sensor, literal: Light, high: 0, delay: 1000, report when: on, 16:27 Dec 12

REPORT,2,LIGHT,ON
Tramigo: Light, reporting is turned on for user 2, 16:32 Dec 12

Report when input is detected:
Tramigo: Sensor (Light) on detected, stopped, at Valero Street-Rufino Street, Makati, NCR, PH, 14.55898, 121.01924, 16:39 Dec 12

Check input port current settings:

Input,3
Tramigo: Input: 3, type: Sensor, literal: Light, high: 0, delay: 1000, report when: on, 18:09 Dec 12

6.2.18 Language

Command: Language,*languageNumber/languageName/on/off/all*
Alias: none
Parameters: *on/off* - optional. Turns on or off the alternate language
languageNumber - optional. Select language by number
languageName - optional. Select language by name
all - Shows the list of all languages

Description: Sets the language for the unit.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. Unit can have alternate languages loaded. VERSION command shows which language files (LF) are loaded.
2. Unit commands and reports will switch to the alternate language when turned on.
3. System commands such as BOOT remain in English.
4. Possibility to load 3 languages into T23 Series unit
5. To change TLD language, use command TLDLanguage,*TLDLanguageNumber*

Errors:

1. Parameter Error

Examples:

LANGUAGE,on
Tramigo: Language, turned on, 09:25 Jan 14

LANGUAGE,1
Tramigo: Idioma, SPANISH seleccionado, 09:25 Jan 14

LANGUAGE,spanish
Tramigo: Idioma, SPANISH seleccionado, 09:25 Jan 14

LANGUAGE,all
Tramigo: Language, #1 SPANISH, #2 FRENCH, #3 ENGLISH, 04:04 Oct 23

6.2.19 Listen

Command: Listen,*phoneNumber*
Alias: L
Parameters: *phoneNumber* – optional. T23 or T23 Fleet will call this number if entered
Description: Allows a user to listen to the vehicle cabin.

Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. Not available with T23 Track.
2. Command initiates an outgoing call to the User. The User can then answer the call and listen to vehicle cabin.
3. There is no indication in the vehicle that the call is in progress.
4. Calls from unauthorized users are ignored and not answered.
5. The owner(s) receives a message that the event occurred.
6. Use the phoneNumber option to have the T23 or T23 Fleet call a land line for better voice quality.

Errors: none
Examples:

When the call is initiated by user 3:

LISTEN
Tramigo: Vehicle voice monitor activated by User 3, 09:25 Jan 14

When the call is initiated by user 1 and number is not a registered user:

LISTEN,+915379830
Tramigo: Listen, Voice monitor activated by user 1, 18:06 May 28

6.2.20 ListPlaces[NEW]

Command: ListPlaces,*forced*
Alias: LP
Parameters: *forced* – optional.

Description: Lists all the places and their corresponding latitude, longitude and radius.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. Only acceptable if sent via Tramigo Manager (PC) or server (GPRS).
2. If command is sent via SMS, the unit will send the first 16 places.
3. If *forced* parameter is used, all places.

Errors:

1. Parameter Error
2. Lookup Error

Examples:

LISTPLACES
Tramigo: ListPlaces, 0.00000 0.00000 0.00, office 4.55919 121.01935 1.00, santolanstation 14.60800 121.05642 0.50, ortigasstation 14.58786 121.05680 0.50, shawstation 14.58107 121.05371 0.50, bonistation 14.57357 121.04800 0.50, 02:49 Oct 21

6.2.21 ListUser

Command: ListUser,*userNumber/all*
Alias: LU
Parameters: *userNumber*– optional. Lists the full details for a specific user
all – optional. Lists details for all users
no parameter -optional. Provides a summary

Description: List users and their reporting status in the system.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. If no parameters are used then a list of all users is provided. Only the last 4 digits of the phone number are displayed. LU,number can be used to get a detailed list for one user.
2. Parameter ALL reports a detailed list for all users. May be a multi-part SMS.
3. Users can be in a different country than the T23 Series if roaming is enabled on the T23 Series SIM and the user's SIM.
4. User PC is used when connected to a computer where you can send commands from the Tramigo Manager application.
5. GPRS server is automatically added as user #10 when configured.

Errors:

1. Parameter Error
2. Lookup Error

Examples:

LISTUSER
Tramigo: ListUser,#1-2345, #2-4556, #3-8992, 09:25 Jan 14

LISTUSER,3
Tramigo: ListUser, #3 +35855558992 Guest, 09:25 Jan 14

LISTUSER,ALL
Tramigo: ListUser, #1 +63906433333 Friend, #2 +15552221234 Owner, 19:31 Feb 16

ListUser when GPRS connection is set up:

LISTUSER
Tramigo: ListUser, #1-2345, #2-4556, #3-8992, #10-GPRS, 18:11 May 28

LISTUSER,ALL
Tramigo: ListUser, #1 PC Owner, #2 +63906433333 Friend, #3 +15552221234 Owner, #10 GPRS Owner, 18:10 May 28

6.2.22 LowBalance

Command: LowBalance,*number/off*
Alias: LB
Parameters: *number*– optional. Phone number
off – optional. Turns it off

Description: Sets phone number that the GSM operator sends low balance notification from. Default is off.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. Any SMS coming from the specified phone number (find phone number from GSM operator) will be sent to all users with Owner authority. Used when GSM operator has low balance notification SMS.
2. Do not enter your phone number – enter the number that low balance messages come from.
3. Number only has to be set the first time. System wide command.

Errors:

1. Parameter Error

Examples:

LowBalance,220
Tramigo: LowBalance, SMS from 220 will be forwarded to Owner, 09:25 Jan 14

LowBalance,off
Tramigo: LowBalance, reporting turned off, 09:25 Jan 14

6.2.23 Metric

Command: Metric,*on/off*
Alias: none
Parameters: *on/off* – optional. On = metric units used, off = imperial units used.

Description: Selects metric or imperial measurement. Default is metric.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. km or kmh are used for metric. mi or mph are used for imperial in all distances.
2. If changed then Zone distance is displayed in new measurement unit.

Errors: none
Examples:

Metric
Tramigo: Metric, turned off – Miles will be used, 09:25 Jan 14

Metric,ON
Tramigo: Metric, turned on – Km will be used, 09:25 Jan 14

6.2.24 Name

Command: Name,*unitName*
Alias: N
Parameters: unitName – name that will be used for the unit. Default is Tramigo.

Description: Changes the vehicle name.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. Maximum length is 16 characters, extra characters are automatically truncated.
2. Limited characters allowed, letters, numbers, blank, hyphen, single quote Other characters are converted to blanks.
3. Invalid characters for naming unit: "," and ">"
4. unitName is used on all Location and Command Response message formats.

Errors:

1. Parameter Error

Examples:

NAME,My Car
My Car: Name, OK, 09:25 Jan 14

6.2.25 Output

Command: output,portId,type,commandName,1/0,*time*
Alias: none
Parameters: portId – Output port ID number
Type – The type of the output port
commandName – The command name for output
1/0 – High or low output
Time – The duration output is on or off

Description: Configure T23 Series output ports to send signal for accessories
Related Cmds: None
Security: Owner
Message Format: Command Response
Notes:

1. T23 port Ids are from 1-3.
2. T23 Fleet and T23 Track port Ids are from 1-2.
3. Types can be IMMOBILIZER or GENERAL.

Errors:

1. Parameter error

Examples:

OUTPUT,1,IMMOBILIZER,DISABLE,1,0
Tramigo: Output: 1, type: immobilizer, literal: disable, high: 1, time: 0, 15:37:33 Dec 12

DISABLE,ON
Tramigo: Disable, vehicle ignition disabled, parked, at Valero Street-Rufino Street, Makati, NCR, PH, 14.55931, 121.01934, 15:39:06 Dec 12

Custom output command:

OUTPUT,2,GENERAL,LIGHTON,1,1000
Tramigo: Output: 2, type: general, literal: LIGHTON, high: 1, time: 1000, 15:40:03 Dec 12

LIGHTON
Tramigo: Output (LIGHTON), turned on for 1000 milliseconds, 15:40:19 Dec 12

Check output port current settings:

OUTPUT,2
Tramigo: Output: 2, type: general, literal: LIGHTON, high: 1, time: 1000, 15:42:06 Dec 12

6.2.26 Owner

Command: Owner,*password*
Alias: none
Parameters: *password* – optional. System password

Description: Registers the owner of a unit.
Related Cmds: none
Security: none
Message Format: Command Response
Notes:

1. Sending OWNER is same with the previous Owner,0000.
2. The password is needed only when there is an existing Owner defined in the user list and password set.
3. User will receive a confirmation SMS that the mobile number was successfully registered as owner.
4. There can be more than one Owner defined in the user list if needed as backup.
5. All current Owners are notified when a new Owner is added for security reasons.

Errors:

1. Parameter Error

Example/s:

OWNER
Tramigo: Owner, +635551234 registered, 09:25 Jan 14

6.2.27 Password

Command: Password,oldPassword,newPassword
Alias: none
Parameters: oldPassword – system password
newPassword – new system password

Description: Changes the system password.
Related Cmds: Disable,Owner
Security: none
Message Format: Command Response
Notes:

1. The password can be 20 characters in length, 10 characters if using unicode. Letters and numbers only. Not case sensitive.
2. Default password is 0000.

Errors:

1. Parameter Error

Examples:

PASSWORD,0000,903WOOD
Tramigo: Password, changed to 903WOOD, 09:25 Jan 14

6.2.28 Personal Assistance

Command: press panic button
Alias: none
Parameters: none

Description: Generates a panic report that is sent to all users with Owner authority.
Related Cmds: none
Security: none
Message Format: Location
Notes:

1. T23 Track: Available with optional external SOS button only.
2. Button must be pressed for 3 or more seconds to activate. All lights on the T23 Series turn on when the button is pressed.
3. All Users with Friend authority can also receive the report with the SET,SOSReportToFriend,1 command

Errors: none
Examples:

Press alarm button on T23 or T23 Fleet unit
Tramigo: Alarm detected, panic button activated, parked, at Valero Street-Rufino Street, Makati, 14.55888, 121.01965, 18:15 May 28

6.2.29 Power

Command: Power,*on/off*
Alias: P
Parameters: *on/off* – optional. Turns power reporting on or off.

Description: Turns on and off power reporting for the user. Default is on.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Power reporting will notify the user when the battery is capacity is below 20%.

Errors: none
Examples:

POWER,ON
Tramigo: Power, reporting turned on, 09:25 Jan 14

When the internal battery is low:
Tramigo: Low power, parked, 0.25 km NE of Keming Primary School,Bukit Batok, 09:25 Jan 14

6.2.30 Report

Command: Report, userNumber,reportName,on/off/time
Alias: R
Parameters: userNumber – required. User number from 1 to 10.
reportName – required. Name of the report to be activated.
on/off – Turns the report on or off, like ALARM
time - Time value for the periodic report, like FIND.

Description: Allows owners to set the reporting for users.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. The following reports can be controlled: Alarm, Find, Ignition, Trip, Power, Speed, Status, IdleAlarm and Zone
2. Parameters can be used for the reports.
3. Use the ListUser command to determine the user number.
4. Short forms can be used for the reportName.

Errors:

1. Lookup Error – report name was incorrect.
2. User not found Error.

Examples:

To turn on the Alarm report for user 2.

Report,2,A,on
Tramigo: Alarm reporting is turned on for user 2, 23:40 Sep 12

To turn on the Periodic reporting for user 5.

Report,5,F,1
Tramigo: Find reporting is turned on for user 5 (report interval 1.00 km), 04:44 Jun 11

Report,2,F,1,1,60,30
Tramigo: Find reporting is turned on for user 2 (report interval 1 minutes, 1 km, 60 minutes, 30 degree(s)), 11:39 Jan 15

6.2.31 Set

Command: Set,parameter,value
Alias: none
Parameters: parameter – Parameter value to be set
Value – The value of the parameter

Description: Sets a parameter with a value
Related Cmds: Get
Security: Owner
Message Format: Command Response
Notes:

1. Used for parameters that can be set when unit is configured prior to installation. These parameters are not frequently changed by the typical user.
2. Key or value is not case sensitive.
3. See T23 Series Parameters for a complete list of parameters.

Errors:

1. Lookup Error
2. Parameter Error

Examples:

To turn off start of trip reports

SET,TripStart,0
Tramigo: Set, parameter TripStart, value 0, 09:25 Jan 14

6.2.32 Settings

Command: Settings
Alias: none
Parameters: none

Description: Displays the unit settings
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. When a report setting is shown the numbers show the user numbers who have requested the report.
2. Only report settings that are set ON will display. Example Alarm=1/2/6 means Alarm reporting is turned on for Users 1, 2, and 6.
3. Used primarily for support. Users will use Status command.
4. RESETSETTINGS command is used to restore all factory defaults.

Errors: none
Examples:

SETTINGS
Tramigo: Settings, Alarm: - , Find: 1/2/4 , Status: - , IdleAlarm: 10 , Ignition: 2/10 , Power: - , Trip: 1/3/6 , Speed: - , SpeedTrigger: -, Temperature: -, Zone: - , Input (powercut): -, Sensor (Sensor): - , Input (Input4): - , User locations: 0, Metric: on, Coord: off, Language: off, LowBalance: off, Time: automatic (GMT 0.00), 18:21 May 28

6.2.33 SMS

Command: SMS,phoneNum,*message*
Alias: none
Parameters: number – phone number
message – optional. Text message up to 62 characters

Description: Sends a SMS text message.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. If message parameter is omitted then a blank message is sent.
2. Commas are allowed in the message text.
3. Can be used to request a balance report for pre-paid GSM accounts that is forwarded to the Owner with the LowBalance command.
4. Can also be used to activate operator specific programs such as unlimited text plans, etc.

Errors:

1. Parameter Error

Examples:

SMS,222
Tramigo: SMS sent to 222, 09:25 Jan 14

SMS,+358400200,Hello world!
Tramigo: SMS Hello world! sent to +358400200, 09:25 Jan 14

6.2.34 SMSLimit

Command: SMSLimit,numOfSMS/off
Alias: none
Parameters: numOfSMS - number of SMS messages per user
off - turns off the SMSlimit

Description: Limits daily SMS reports.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Daily SMS limit is set to X values for 24 hours starting at midnight.
2. When the limit is reached the owner is notified.

Errors:

1. Parameter Error

Examples:

SMSlimit,off
Tramigo: SMSLimit removed, 04:01 Oct 23

SMSlimit,100
Tramigo: SMSLimit set to 100 daily, 04:01 Oct 23

6.2.35 Speed

Command: Speed,*speedLimit*/on/off
Alias: S
Parameters: on/off – Turn speed limit on or off
speedLimit – optional – Value from 50 to 200 kmh, default is 120

Description: Turns on and off speed reporting for the user.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Speed report occurs immediately when exceeding the speed limit set. Maximum speed is not reported but can be found in the Trip report.
2. Report will not occur again until the speed limit is exceeded after the speed has decreased by 50 km to prevent excessive reports – This default is set with Set,SpeedLimitFilter,xx – where xx is km/mi. To set the speed limit below 50 then set this parameter otherwise only 1 speed report will be sent. Minimum is 10.
3. MaxSpeed system parameter is set at 200, so if you want to set the speed limit over 200 then you must Set,MaxSpeed,xxx to the value you want – maximum is 360.
4. Speed limit is set per user.

Errors:

1. Parameter Error

Examples:

SPEED,110
Tramigo: Speed, speed limit 110 km/h, reporting is turned on, 09:25 Jan 14

When the vehicle exceeds 110 kmh:
Tramigo: Speed limit detected, moving, 0.22 km NE of Bangkok City Hall, Phranakhon, Bangkok, TH, SW with speed 115 km/h, 09:25 Jan 14

6.2.36 SpeedDial

Command: SpeedDial,*slot,phoneNum*
Alias: SD
Parameters: slot – Value from 1 to 3
phoneNum – Phone number to added to slot or erased if empty

Description: Configures speed dial numbers
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. Not available with T23 Track.
2. Requires optional hands free kit.
3. Up to 3 pre-defined numbers can be defined to initiate outgoing calls from T23 or T23 Fleet.
4. Pressing the phone button once for 1 second will call the phone number in slot 1, pressing twice will call phone number 2, etc.
5. To hang up press the phone button.
6. SD with no parameters displays the defined phone numbers.
7. To erase a number omit the phone number.

Errors:

1. Parameter Error

Examples:

To add an entry to slot 1

SPEEDDIAL,1,+5512345678
Tramigo: SpeedDial, +5512345678 added as speed dial 1, 09:25 Jan 14

To display all numbers using the short form of the command

SD
Tramigo: SpeedDial, 1 - +5512345678, 2 - +555456789, 09:25 Jan 14

To delete an entry

SPEEDDIAL,1
Tramigo: SpeedDial, speed dial 1 deleted, 09:25 Sep 18

6.2.37 SpeedTrigger[NEW]

Command: speedTrigger,speedLimit,output1/output2
Alias: none
Parameters: speedLimit - Minimum is 50 kph, maximum is 200 kph
output1/2 – Select output port 1 or 2

Description: Triggers an output when a certain speed has been reached
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. SpeedTtrigger command triggers an output when a certain speed has been reached.
2. Output1 cannot be set directly as it is usually used with immobilizer.

Errors:

1. Parameter Error

Examples:

SpeedTrigger,80,output2
Tramigo: SpeedTrigger, reporting turned on (Output: 2, SpeedLimit: 80 km/h), 06:22 Oct 23

6.2.38 Status

Command: Status*,off/time/daily/weekly,distance,angle*
Alias: ST
Parameters: *time* (in minutes) – optional. Creates automatic STATUS reports. Minimum is 1 minute.
distance (in kilometers) – optional. Creates automatic STATUS reports. Minimum is 0.5 km
angle - optional. Creates automatic STATUS reports. Minimum is 20 degrees. Maximum is 180 degrees.

Description: Displays the unit status and user's settings.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Only settings that are set ON for the user will display.
2. For each report turned on the parameters are also shown in brackets.
3. TripEndTime in minutes is show in brackets after the Trip report indicator – example Trip (15).
4. Periodic STATUS reporting is set optionally in minutes and distance.
5. STATUS can't be set automatically for distance only. Time should be present.
6. Enable Temperature details on status report by sending this command:
    a. Set,ShowTemperature,1
7. **ST,x,y,z,a** will send a STATUS report every X minutes or Y kilometer (on trip mode) then send STATUS report every Z minutes and if angle change is more than A degrees.

Errors: none
Examples:

STATUS
Tramigo: Status, GSM: 80%, GPS: 60%, Battery: 100%, Reports: Alarm, Trip, Speed (120), 09:25 Jan 14

STATUS,7
Tramigo: periodic status report activated, report interval 7 minutes, 14:21 May 25

STATUS,5,3,120,30
Tramigo: periodic status activated, report interval 5 minutes, 3 km, 120 minutes, 30 degree(s), 03:18 Oct 23

When temperature details is enabled:

STATUS
Tramigo: Status, GPS: 70%, GSM: 67%, Temp: 38.98, battery: 89% (charging), reports: none, 18:22 May 28

6.2.39 SystemStatus[NEW]

Command: SystemStatus,*all/reset/time*
Alias: SS
Parameters: *all* – optional. Comprehensive listing of system status
reset – optional. Reset the SS values.
time – optional. Periodic time SS reporting.

Description: Displays the unit system statistics for GPRS data, GSM connection, Temperature, and travel time.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. Odometer allows T23 Series to show total distance travelled in km, on trip or not.
2. Average temperature is in degrees Celcius.
3. Time is based on hh:mm:ss format.

Errors: none
Examples:

SYSTEMSTATUS
Tramigo: SystemStatus, Reboots: 3, Ave. Signal Strength: 68%, GPRS Reconnect: 468, GPRS Packets Sent: 2247, GPRS Ave. Time Connected: 0:20:28, GPRS Ave. Time Disconnected: 0:0:42, GSM Ave. Time Connected: 0:0:44, GSM Ave. Time Disconnected: 0:1:0, Ave Temp: 42.11, Total Distance Travelled: 69.01 km, 13:22 May 25

SS,ALL
Tramigo: SystemStatus from 00:00 Jan 1, NormalResets: 0 SW WD: 0 HW WD: 16, CFG: B GPSAvgSignal: 51%, GPRSReconnect: 0 PacketsSent: 0, SMS sent: 0, unsent: 20, AvgTimeConnected: 00:00:00 AvgTimeDisconnected: 00: 00:00, GSMAvgSignalStrength: 0% AvgTimeConnected: 00:00:00 AvgTimeDisconnected: 00:00:00, MCUTemp: 31.66/39.01/54.54, BatLevel: 3.70/4.02/4.25, TripsByIG: 0 GPS: 1 Total: 0, Disable: 0, IgnitionOnPeriod: 00:00:00, FixOdometer: 2.98 km, Odometer: 2.98 km, GSMReset: 9, GSMErrorReset: 0, ShockCount: 341, 03:25 Oct 23

6.2.40 Temperature

Command: Temperature,on/off/*value*
Alias: TEMP
Parameters: on/off - turns on or off temperature reporting
value – optional. Temperature limit

Description: Sets the MCU temperature reporting on or off, or set the temperature limit
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Can be used to monitor unit temperature.
2. Temperature report occurs immediately when the internal temperature of the unit exceeds the limit.
3. Temperature limits value from 30 C to 100 C, default value is 70 C.

Errors:

1. Parameter Error

Examples:

TEMPERATURE
TRAMIGO: temperature, limit 70 C, reporting is turned on, 03:43 Oct 23

TEMP,off
TRAMIGO: Temperature, reporting is turned off, 03:42 Oct 23

TEMP,100
TRAMIGO: temperature, limit 100 C, reporting is turned on, 03:45 Oct 23

6.2.41 Time

Command: Time,gmtOffset/auto
Alias: none
Parameters: gmtOffset – number of hour's adjustment from GMT
auto - automatically adjusts GMT
Description: Adjusts the timestamp in messages to local time

Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Normally GMT offset from the SMS is used. This command overrides the SMS value. Time,off reverts back to SMS GMT offset.
2. Used when GSM operator time is not correct.
3. Valid values are 12.0 to -12.0 and off.

Errors:

1. Parameter Error

Examples:

TIME,8
Tramigo: Time, adjusted to GMT + 8 hours, 09:25 Jan 14

TIME,auto
Tramigo: Time, automatic GMT, 09:25 Jan 14

6.2.42 TLDLanguage

Command: TLDLanguage,value
Alias: none
Parameters: value – The number of TLD language

Description: Select the preferred TLD language.
Related Cmds: none
Security: Owner
Message Format: Command Response
Notes:

1. Select the TLD language based on the end user preference.

Errors:

1. Parameter Error

Examples:

TLDLANGUAGE,2
Tramigo: TLDLanguage is set to 2, 14:17 Jun 7

6.2.43 Trip

Command: Trip,*on/off/now*
Alias: T
Parameters: *on/off* – optional. Turns Trip reporting on or off
now – optional. Shows a trip in progress or last trip report

Description: Controls Trip reporting.
Related Cmds: none
Security: Friend
Message Format: Command Response, Trip
Notes:

1. Reports when a trip has started and ended.
2. Trip starts when ignition on is detected and when the speed is > 6 kmh and unit has moved more than 300m.
3. If ignition detection is not available then the trip start is determined when the speed is > 3 kmh or the unit has moved more than 300m.
4. Trip ends when ignition off is detected and the vehicle is idle longer than the TripEndTime (default 15 min). This is to prevent a false trip break when stopping for gas or traffic. TripEndTime is shown in the STATUS report.
5. Trips less than 300m are ignored.
6. Idle time is the total time the vehicle has spent as stopped (speed < 3 km/h) during this trip.
7. Trip reports can exceed 1 SMS (160 characters). Only the first part of the location name is used when the message length exceeds 1 SMS.
8. Trip start reports can be turned on/off with the TripStart parameter. SET,TripStart,1 to turn on, SET,TripStart,0 to turn off.

Errors:

1. Parameter Error

Examples:

To turn on reporting

TRIP,ON
Tramigo: Trip, reporting turned on, 09:25 Jan 14

When a trip is started the following message is sent:
Tramigo: Trip started, 3.23 km NE of Glorietta Mall Manila PH, 09:25 Jan 14

When a trip is completed the following message is sent:
Tramigo: trip report, start 19:20 at Arnaiz Avenue-Pasong Tamo, end 19:40 at Tramigo Office, trip time 0:20, distance 2.06 km, max speed 64 km/h, avg speed 5.9 km/h, idle time 0:03, 20:32 Sep 25

To see the last trip or a trip in progress send TRIP,NOW:
Tramigo: trip report, start 19:20 at Arnaiz Avenue-Pasong Tamo, end 19:40 at Tramigo Office, trip time 0:20, distance 2.06 km, max speed 64 km/h, avg speed 5.9 km/h, idle time 0:03, 20:32 Sep 25

6.2.44 Version

Command: Version
Alias: V
Parameters: none

Description: Displays the software and hardware versions.
Related Cmds: none
Security: Friend
Message Format: Command Response
Notes:

1. Used for support purposes.
2. IMSI is only available when the GSM modem is connected to the network.
3. IMEI is needed for warranty claims.

Errors: none
Examples:

VERSION
Tramigo: Firmware version: 1.08, LD: East Asia and Pacific, Version=01.06, LF: English template,Version=1.08, GSM: B11e03gg.WISMO228 301109, IMEI: 355915034299735, IMSI: 515020908548390, 18:24 May 28

6.2.45 Zone

Command: Zone,*distance/on/off/userLocations,placeName/in/out/both/off*
Alias: Z
Parameters: *on/off* – optional. Turn zone reporting on or off
distance – optional. Distance is in the units used by the system. Default is 1. Minimum is 0.1 maximum is 999
userLocations – optional. Sends a zone report when a user location has been entered/exited
placeName – optional. Name of the location. Default is the current location of the vehicle
in/out/both/off – optional. Used with parameter *userLocations*

Description: Turns Zone reporting on and off. Notifies user when the vehicle is entering or leaving an area. The area is defined by a circle with a radius defined by the distance from the place name.
Related Cmds: AddPlace
Security: Friend
Message Format: Command Response

Errors:
1. Parameter Error
2. Lookup Error

Notes:
1. Zone crossing is reported whenever the unit crosses a circle with radius of *distance* from the *placename.*
2. Zone reports will be only be issued when the unit has a GPS fix and the unit is in a Moving or Stopped state. If the unit crosses the zone without a fix, then the report will be delayed.
3. Once a crossing is detected there is a 10 minute delay between reports to avoid excessive reporting.
4. Adding a new Zone will replace the current active Zone.
5. The user can enter a partial string for the placeName, and if a unique name is not found then the system will select the closest placeName. Lookup is only done on the first name field of the location. User locations are also searched.
6. Zone reporting works best in fully installed units that have ignition sensing connected.
7. User locations are places added with command ADDPLACE. They can be set as zones with parameters in/out/both/off
    a. In: sends a report when the user location has been entered
    b. Out: sends a report when the user location has been exited
    c. Both: sends a report when user location has been entered/exited
    d. Off: turns the user added locations zone reporting off

Examples:

ZONE
Tramigo: Zone, Vehicle will report when 1 km from current Location, 1.1 km W of Glorietta Mall, 09:25 Jan 14

ZONE,5,home
Tramigo: Zone, Vehicle will report when 5 km from, Home, 09:25 Jan 14

When the Zone crossing is detected the following report is sent to the user:
Tramigo: Zone crossing detected, moving, 0.11 km NE of Berjaya Times Square,Kuala Lumpur,KL,MY, SW with speed 33 km/h, 09:25 Jan 14

ZONE,off
Tramigo: Zone, reporting is turned off, 18:23 Jan 9

ZONE,userLocations,in
Tramigo: Zone, reporting for all user locations: in, 05:07 Oct 23

7 Troubleshooting

Problem: Unit will not turn on when pressing the power switch	
Possible Cause:	**Resolution:**
Power switch was not pressed for 2 seconds or more.	Press power switch longer.
Battery is not installed.	Check that battery is installed and close battery cover. Battery is needed to power the unit even when connected to a power source.
Battery needs charging (sometimes lights will be very dim).	Recharge battery. If battery is completely discharged then the Lights will not turn on for 1.5 hours.
Power switch disabled.	Remove and re-insert the battery.
Problem: Unit will not respond to SMS	
Possible Cause:	**Resolution:**
GSM light is on or flashing.	Refer to GSM problem resolution.
GSM Network is slow.	Wait for SMS. Some GSM networks slow down during peak times or when they have equipment problems.
Unit is sleeping.	Wait for unit to wake up or activate motion detector.
User is not authorized.	Check that user's phone number is added to the user list.
User is does not have a high enough authority for the command.	Check the user's authority with the LISTUSER command. T23 Series will not respond to any unauthorised commands.
Problem: GSM light is on solid	
Possible Cause:	**Resolution:**
No GSM signal.	Check with a mobile phone to see if there is a signal in the area or try to call the unit to see if you receive a ring tone.
No SIM card.	Insert working SIM card. Check in phone that the SIM can send SMS messages.
SIM card has expired.	Check in phone that the SIM can send SMS messages. Replace SIM card if needed.
SIM has PIN code set.	Remove PIN code by inserting SIM in your phone and deleting the code.
SIM is warped or damaged.	Inspect SIM, clean the contacts. If re-inserting does not help try another to see if it will work.
Roaming not enabled.	If you are in a different country your SIM account must have roaming enabled.
Battery is low.	Recharge the unit for 5-15 minutes and the GSM will start working.
Unknown problem.	Remove and re-insert the battery after 1 minute.

Problem: GSM light is flashing (T23 Series is trying to send a SMS but having a problem)	
Possible Cause:	**Resolution:**
No GSM signal.	Check with a mobile phone to see if there is a signal in the area or try to call the unit to see if you receive a ring tone.
Network busy.	Wait a few minutes to see if the message gets through.
Zero balance on pre-paid account.	Add credit to the account. Unit will recover on its own or send BOOT command to quickly reset the unit.
Phone number in user list is incorrect.	If you have just added a new user, check that the phone number is correct.
Problem: GPS light is on (T23 Series does not have a current location)	
Possible Cause:	**Resolution:**
Unit does not have clear view of the sky.	Move the unit to a location where the sky is visible. Tall buildings, trees, heavy rain, car tinting, can cause problems with the GPS reception.
Car tinting is blocking the GPS signal.	Move the unit outside the vehicle – if the light goes off then the tinting is blocking the signal. Either change the tinting in the windshield or with T23 or T23 Fleet install the optional external GPS antenna outside the vehicle.
Unit has been moved a large distance without a location fix. Example: on a flight or train trip.	Remove and re-insert the battery to reset the location.
Problem: Owner has lost their phone	
Possible Cause:	**Resolution:**
	If a backup owner has been defined then use their phone to add your new number in. Use OWNER,password to add you new number in then delete the old number with the DELUSER command.
Problem: Owner has forgotten their password	
Possible Cause:	**Resolution:**
	The owner can send the RESETSETTINGS command to set the password back to 0000. All other settings are also reset as if the unit was new, so the Owner will have to register themselves again.

Problem: Time stamp in the SMS reports is wrong	
Possible Cause:	**Resolution:**
T23 Series requires a GPS fix to determine the time zone and connection to the GSM network to determine the time. Time will show 00:00 Jan 01 when first used.	Wait for the GPS and GSM lights to go off then send the unit a SMS to check the time.
GSM Operator time is incorrect.	Use the TIME command to override the GSM time. Some GSM operators have problems with DST and roaming phones.
Problem: Trip reports are received when vehicle is parked	
Possible Cause:	**Resolution:**
Vehicle is parked with a limited view of the sky so the GPS signals are weak and bounce off of buildings. This can generate short trip reports.	Turn off trip reporting when in these locations. If you are not interested in short trip reports Increase the minimum trip distance to 1 km or higher Set,MinTripDistance,1000
Problem: Vehicle shows as parked, but its moving	
Possible Cause:	**Resolution:**
You T23 Series will report a state of Parked when a Trip has not been started which takes 300m, so if a FIND or any other report is received during this time it will show as Parked.	None. Once a Trip is detected the vehicle state will change to moving or stopped.

8 T23 Series Parameters

T23 Series parameter defaults are changed with the SET command and displayed with the GET command. Note that T23 Track does not have SOS and Call buttons, no external microphone port and no external GPS antenna pot.

Boolean units are 1 for on and 0 for off.

Important: Changing the parameters can greatly impact the behaviour of the unit, so only advanced users should change the default values. Use the **DBG, CFG, DEFAULT** command to return all the parameters back to the factory defaults.

Name	Default	Min Val	Max Val	Units	Comment
AutoRearmTime	0	5	30		Delay before arming again
CallTimeOut	5	1	9999	min	timeout when device is calling a user
DisableDelay	45	1	60	s	Immobilization delay
DisablePowerButton	0	0	1	boolean	Disable power button
DisableShockSensor	0	0	1	boolean	Disable shock sensor
HFMaxTimeBetweenPress	1000	1	9999	ms	Maximum break between two HF button presses (for GPIO input)
HFMinPressTime	200	1	9999	ms	Minimum time to recognize a HF button press (for GPIO input)
HFMinTimeBetweenPress	200	1	9999	ms	Minimum break between two HF button presses (for GPIO input)
IgnitionInputGPIO	0	0	1	boolean	Use GPIO input as the ignition input
IgnitionInputShock	1	0	1	boolean	Use shock sensor as the ignition input
IgnitionOff	1	0	1	boolean	Enables Ignition off reporting
IgnitionOn	1	0	1	boolean	Enables Ignition on reporting
IgnitionOnAvgSpeed	30	1	999	km/h	Minimum average speed to prevent ignition off (applies only to shock/ignition detection)
IgnitionOnMaxSpeed	30	30	999	km/h	Maximum speed max-min difference to prevent ignition off (applies only to shock/ignition detection)
LoudSpeakerVolume	3	1	9		Loud speaker volume
MaxAccel	15000	1	99999	mm/s^2	Maximum accepted acceleration
MaxDistanceAtLocation	50	1	999	m	Maximum distance from a landmark to report "at location"
MaxFixAge	3	1	60	minutes	Time delay to show old position in SMS reports
MaxSpeed	200	1	999	km/h	Maximum accepted speed (otherwise the fix is interpreted as invalid)
MicrophoneGain	7	1	10		Low is 1 highest is 10
MinTripDistance	300		999	m	Minimum trip distance
MovingSpeed	6		999	km/h	Speed threshold to decide if the vehicle is moving or stopped
NavLogStopLimit	30000	optimum value set			Limit of file space used for navigation logs
NoSleepCharge	1	optimum value set		boolean	Don't go to sleep if the battery is being charged
NoSleepDisabled	1	1	600	boolean	Don't go to sleep if the vehicle is immobilized
NoSleepGSM	0	0	1	boolean	Don't go to sleep if GSM not registered to network
NoSleepInTrip	1	0	1	boolean	Don't go to sleep if a trip in progress

PanicButtonHoldTime	2	1	3600	s	Required duration of panic button press
PowerButtonHoldTime	2	1	3600	s	Required duration of power button press
ReArmDelay	30	1	900	seconds	Time interval before Alarm is re-armed after pressing SOS button.
RequireOwnerConfirmation	0	0	1	boolean	If set on the new owner is requested to confirm but sending owner,yes command.
SensorOff	1	0	1	boolean	Enables sensor off reporting
SensorOn	1	0	1	boolean	Enables sensor on reporting
ShowTime	1	0	1	boolean	Enable time stamps at end of reports
Sleep	1	0	1	boolean	Enable sleep mode
Sleep1GsmOff	0	0	1	boolean	GSM turned off in sleep mode 1
Sleep1OffTime	55	1	9999	min	Off time in sleep mode 1
Sleep1OnTime	5	1	9999	min	On time in sleep mode 1
Sleep1Repeats	6	1	9999		Number of repeats in sleep mode 1
Sleep2GsmOff	1	0	1	boolean	GSM turned off in sleep mode 2
Sleep2OffTime	55	1	9999	min	Off time in sleep mode 2
Sleep2OnTime	5	1	9999	min	On time in sleep mode 2
Sleep2Repeats	120	1	9999		Number of repeats in sleep mode 2
Sleep3GsmOff	1	0	1	boolean	GSM turned off in sleep mode 3
Sleep3OffTime	1435	1	9999	min	Off time in sleep mode 3
Sleep3OnTime	5	1	9999	min	On time in sleep mode 3
Sleep3Repeats	0	1	9999		Number of repeats in sleep mode 3
SleepTimeoutIgnition	60	1	9999	min	Sleep timeout from ignition switched off
SleepTimeoutWake	10	1	9999	min	Sleep timeout from the last wake trigger
SMSRetriesTotal	15	1	99	number	Number of times the T23 Sries will attempt to resend a SMS.
SMSSendTimeout		1	9999	min	timeout for sending sms
SOSGPIO	0	0	1	boolean	External GPIO input used as a combined SOS/HF button instead of ignition input
SOSMinPressTime	0	0	999	ms	HF button hold time for SOS detection (for GPIO input)
SOSReportToFriend	0	0	1	boolean	Turn on to include users with Friend authority to SOS reports.
SpeedLimitFilter	50	1	999	km/h	After a speed limit report, the speed must drop this much below the limit until more reports are sent
TripEndTime	15	1	999	min	Trip end time
TripStart	1	0	1	boolean	Trip start reports enabled/disabled
TripStartDelay	60	1	999	seconds	Minimum time for a trip report. Trip reports shorter than this time are ignored
TripStartLockDistance	500	1	9999	m	Distance limit to use previous trip end location as the new start location
UseIgnition	1	0	1	boolean	Use ignition input (GPIO wired or shock) in vehicle state handling
VoltageShutdown	3500	3500	5000	mV	Low voltage shutdown limit
VoltageWarning	3650	3501	5000	mV	Low voltage warning limit
VoltageWarningFilter	100	optimum value set		mV	After a low voltage report, the voltage must rise this much above the limit until more reports are sent
WakeOnIgnition	1	0	1	boolean	Wake up from sleep on ignition input

WakeOnShock	1	0	1	boolean	Wake up from sleep on shock sensor input
ZoneArmTimeout	10	1	60	min	Minimum time interval between two consecutive zone reports
ZoneDistanceLimit	0	0	100	m	Distance limit for filtering zone reports from a vehicle parked close to the zone boundary

9 Warranty

Should your T23 Series fail in normal use within the first 24 months from the date of invoice, TRAMIGO will guarantee to repair the unit. For claims under this option, Tramigo requires that failure follows reasonable and normal use of the equipment. Where product is used for purposes or in environments for which it was not designed, Tramigo reserves the right to levy our standard repair charge. Tramigo's decision on whether to accept product under warranty will be final.

The Customer covers the cost of shipment to Tramigo. Tramigo covers the cost of the return.

Where any other party has attempted a repair, the repair warranty will be invalidated. Tramigo reserves the right to either return the product to the Customer without further work or to levy the standard repair charge after acceptance from the Customer.

The Return Material Authorisation (RMA) procedure must be used to return all goods.
Prior to returning the product to Tramigo under this option, please give full details of the reasons for returning the equipment.

Tramigo products are intended for legal usage only under all applicable international and local laws. Tramigo shall not be responsible for any harmful interference or unlawful conduct associated with the operation of Tramigo products.

You assume all risk and liability caused by using the product with peripheral equipment or accessories not supplied or approved by Tramigo, or caused by repairs or modifications carried out by parties not authorised by Tramigo. No potentially harmful external equipment or other objects should be connected to Tramigo products.

You assume all liability relating to the usage of Tramigo products. Tramigo shall under no circumstances be responsible for any loss of data or income or any special, incidental, consequential or indirect damages howsoever caused.

Please note:
The device is an aid and should never be relied upon as an only emergency device. Its functionality is dependent on wireless networks and GPS satellites which may not be available all the time, and connections cannot be guaranteed under all conditions. To make emergency communications, the device must be turned on and located in an area with adequate wireless network signal strength.

Tramigo T23 Series Two-Year Limited Warranty

Tramigo Ltd. ("Tramigo") warrants that this T23, T23 Track or T23 Fleet tracking device ("Product") is free from defects in materials, design and workmanship under normal use in accordance with the operating instructions and pursuant to the following terms and conditions:

1. The limited warranty for the Product extends for TWO (2) years beginning on the date of the original purchase of the Product by the first end-user (“Consumer”)*. This two year period is extended by each whole day that the Product is out of your possession for repair under this warranty. *(*The two year period is given based on products being in stock of the distributor/reseller for 3 months. Warranty period cannot be extended over 27 months of the original sale by Tramigo to the distributor/reseller.)*
2. Warranty period for T23 Series Battery and other accessories is SIX (6) months*.
3. The limited warranty extends only to the original purchaser (the Consumer) of the Product and is not assignable or transferable to any subsequent purchaser/ end-user.
4. During the limited warranty period, Tramigo will repair, or replace, at Tramigo's sole option, any defective parts, or any parts that will not properly operate for their intended use with new or refurbished replacement items if such repair or replacement is needed because of product malfunction or failure during normal usage. No charge will be made to the Consumer for any such parts. Tramigo will also pay for the labor charges incurred by Tramigo in repairing or replacing the defective parts. The limited warranty does not cover defects in appearance, cosmetic, decorative or structural items, including framing, and any non-operative parts. Tramigo's limit of liability under the limited warranty shall be the actual cash value of the Product at the time the Consumer returns the Product for repair, determined by the price paid by the Consumer for the Product less a reasonable amount for usage. Tramigo shall not be liable for any other losses or damages (unless otherwise required by law). These remedies are the Consumer's exclusive remedies for breach of warranty.
5. Upon request from Tramigo, the Consumer must prove the date of the original purchase of the Product by a dated bill of sale or dated itemized receipt.
6. The Consumer shall bear the cost of shipping the Product to Tramigo. Tramigo shall bear the cost of shipping the Product back to the Consumer after the completion of service under this limited warranty.
7. The Consumer shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:
    a. The Product has been subjected to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connections, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of Tramigo, including damage caused by shipping
    b. The Product has been damaged from external causes such as collision with an object, or from fire, flooding, sand, dirt, windstorm, lightning, earthquake or damage from exposure to weather conditions, an Act of God, or battery leakage, theft, blown fuse, or improper use of any electrical source, damage caused by computer or internet viruses, bugs, worms, Trojan Horses, cancelbots or damage caused by the connection to other products not recommended for interconnection by Tramigo.
    c. Tramigo was not advised in writing by the Consumer of the alleged defect or malfunction of the Product within fourteen (14) days after the expiration of the applicable limited warranty period.
    d. The Product serial number plate or the enhancement data code has been removed, defaced or altered.
    e. The defect or damage was caused by the defective function of the cellular system or by inadequate signal reception by the external antenna, or viruses or other software problems introduced into the Product.

8. Tramigo does not warrant uninterrupted or error-free operation of the Product. If a problem develops during the limited warranty period, the Consumer shall take the following step-by-step procedure:
    a. The Consumer shall return the Product to the place of purchase for repair or replacement processing.
    b. If "a" is not convenient because of distance (more than 30 kilometers) or for other good cause, the Consumer shall ship the Product prepaid and insured to Tramigo. See www.tramigo.com for the address of the repair center nearest you.
    c. The Consumer shall include a return address, daytime phone number and/or fax number, complete description of the problem, proof of purchase and service agreement (if applicable). Expenses related to removing the Product from an installation are not covered under this limited warranty.
    d. The Consumer will be billed for any parts or labor charges not covered by this limited warranty. The Consumer will be responsible for any expenses related to reinstallation of the Product.
    e. Tramigo will repair the Product under the limited warranty within 30 days after receipt of the Product. If Tramigo cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, Tramigo at its option, will provide a replacement Product or refund the purchase price of the Product less a reasonable amount for usage.
    f. If the Product is returned during the limited warranty period, but the problem with the Product is not covered under the terms and conditions of this limited warranty, the Consumer will be notified and given an estimate of the charges the Consumer must pay to have the Product repaired, with all shipping charges billed to the Consumer. If the estimate is refused, the Product will be returned freight collect. If the Product is returned after the expiration of the limited warranty period, Tramigo's normal service policies shall apply and the Consumer will be responsible for all shipping charges.
9. You (the Consumer) understand that the product may consist of refurbished equipment that contains used components, some of which have been reprocessed. The used components comply with Product performance and reliability specifications.
10. ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR USE, SHALL BE LIMITED TO THE DURATION OF THE FOREGOING LIMITED WRITTEN WARRANTY. OTHERWISE, THE FOREGOING LIMITED WARRANTY IS THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. TRAMIGO SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF ANTICIPATED BENEFITS OR PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF DATA, PUNITIVE DAMAGES, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT OR FACILITIES, DOWNTIME, THE CLAIMS OF ANY THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY, RESULTING FROM THE PURCHASE OR USE OF THE PRODUCT OR ARISING FROM BREACH OF THE WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL OR EQUITABLE THEORY, EVEN IF TRAMIGO KNEW OF THE LIKELIHOOD OF SUCH DAMAGES. TRAMIGO SHALL NOT BE LIABLE FOR DELAY IN RENDERING SERVICE UNDER THE LIMITED WARRANTY, OR LOSS OF USE DURING THE PERIOD THAT THE PRODUCT IS BEING REPAIRED.
11. Tramigo neither assumes nor authorizes any authorized service center or any other person or entity to assume for it any other obligation or liability beyond that which is expressly provided for in this limited warranty including the provider or seller of any extended warranty or service agreement.
12. This is the entire warranty between Tramigo and the Consumer, and supersedes all prior and contemporaneous agreements or understandings, oral or written, relating to the Product, and no representation, promise or condition not contained herein shall modify these terms.

13. This limited warranty allocates the risk of failure of the Product between the Consumer and Tramigo. The allocation is recognized by the Consumer and is reflected in the purchase price.
14. Any action or lawsuit for breach of warranty must be commenced within eighteen (18) months following purchase of the Product.

Questions concerning this limited warranty may be directed to:
Tramigo Ltd.

support@tramigo.com

9.1 Return Materials Authorization (RMA) Procedure

If you can't return goods to your dealer then this procedure must be used when returning any goods to TRAMIGO. Simply email support@tramigo.com and have the following information ready.

Your name
Description of product being returned including:
– Product name
– IMEI number (located under the battery)
– Description of fault
– Reason for return
On receipt of this information you will be issued an RMA number.
This number should be entered on a label attached to the unit and the goods returned:
Contact support@tramigo.com for current address.

Please quote this number in all future correspondence.

Note:
Any goods returned to TRAMIGO without an R.M.A. number will be automatically returned to the customer at their expense.